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EXAMINER

TOPGYAL, GELEK W

ART UNIT PAPER NUMBER

2621

DATE MAILED: 03/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.



## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to because in Figure 9, in step 920, "flooping" should be changed to read "looping". Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

2. The disclosure is objected to because of the following informalities: In page 12, line 20 should be changed from "At step 1003" to "At step 1103. The context of paragraph 47 starting on page 12 describes the flowchart in Fig. 11. Decision step 1107

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does not match with the text in paragraph 47 and the following changes should be made: page 12, line 26 should replace "If the compared data points are a match" with "If the compared data points are not a match", and page 12, line 29 should replace "If, on the other hand, the compared data points are not a match" with "If, on the other hand, the compared data points are a match."

Appropriate correction is required.

### ***Claim Objections***

3. Claim 34 is objected to because of the following informalities: The dependent claim depends on claim 2 due to a typing error; it should be dependent on independent claim 24. Claim 34 has been interpreted and examined as such. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

5. Claims 1-5, 9-11, 24-29, and 33-34 are rejected under 35 U.S.C. 102(a) as being anticipated by Bodkin.

Claim 1 recites a method of switching between a live video decoding and a recorded playback in a digital video and recording system, comprising:

(a) receiving a stream of digital video data;

(b) transmitting the received video data stream to a video decoder without first looping the video data stream through a playback buffer (Bodkin discloses a Hard Disk Recorder capable of recording live TV broadcasts that receives a stream of video data that is displayed without first being buffered (pg. 24, lines 2-10). In order to display the incoming video data, it is decoded by way of a video processing unit 18 as described in pg. 10, lines 15-21);

(c) decoding the video data with the video decoder (Bodkin teaches a video processing unit 18 that decodes the incoming video data as described in pg. 10, lines 15-21);

(d) if a command is received that requires the video data stream to be looped through a playback buffer prior to further decoding, performing steps of (Bodkin teaches that when a user enters a "pause" function on a remote controller, the video data goes through a buffer prior to being sent to a decoder, and hence displayed on the TV (pg. 24, lines 11 – pg.25, lines 6). :

(e) transmitting the video data stream to a first-in first-out playback buffer and storing the video data in the buffer (Bodkin teaches that when the incoming video data to be recorded is received, it is first stored onto buffers 57, or 58 (pg. 19, lines 10-16);

(f) marking a data element of the video data stream that was last transmitted to the video decoder (Bodkin teaches of a indicator data that is stored corresponding to the "paused" point in time, which thereby marks

the video data stream that was last transmitted to the decoder, and further displayed (pg. 22, lines 15 - p. 23, line 4).;

(g) if a command requiring decoding of the video data stream to resume is received, performing steps of:

(h) transmitting the video data stored in the playback buffer to the video decoder; and

(i) decoding the video data received from the playback buffer starting at one of the data element marked in marking step (f) and a point immediately after the data element marked in marking step (f) (pg. 22, lines 15 through pg. 23, lines 4 discloses that when the user resumes the viewing of the TV program, the video is read from the hard drive (by way of buffers 57 or 58) and resumes from the position where it had initially been paused, and continues the playback accordingly. It is understood that when the video is displayed it has also been decoded as disclosed in pg. 10, lines 15-21. The video played back from the hard drive is loaded into a buffer 59 before being decoded and further displayed on the TV (pg.19, lines 10-16).)

Regarding claim 2 and 3, Bodkin discloses that when the user halts the transmission of the video data stream, the video data stream is sent to the buffers 57 or 58, and that the processor 'freezes' the current frame displayed on the TV. Since the video data is

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currently stored in a buffer, the video is not being sent to the decoder (pg. 24, lines 11- pg. 25, lines 6).

Regarding claim 4, Bodkin teaches in his invention that the data coming from the receiver is that of a transport stream, which includes not only video data, but EPG, conditional access, service and other data (Fig. 3, Elements 16, 44-47). Since the system works with transport packets, when the video data transmission to the decoder is halted, the current frame is repeatedly looped to create a still image on the display, and therefore, the transmission of newer packets is halted (pg. 24, lines 21 – pg. 25, lines 6).

Regarding claim 5, Bodkin teaches in pg. 22, line 15- pg. 23, line 4, that when the transmission of video is halted, the a corresponding indicator data is stored which points to the location of the paused position.

Regarding claim 9, Bodkin teaches that when the “pause” button is selected, the HDR halts the video (pg. 16, lines 20-22) and as previously described in claim 1, the incoming data gets sent to a buffer prior to further decoding.

Regarding claim 10, Bodkin teaches in pg. 25, lines 1-13 that once the user opts to resume watching the TV program, the incoming video data is still recorded and the data to be decoded is read from the Hard Drive (by way of buffers 57 or 58).

Regarding claim 11, Bodkin teaches that his invention that uses a remote control to allow the user to tune to different channels (pg. 17, line 18-20). When the channel is changed, the new data stream from the selected channel is going to go through the same process as described in claim 1.

Claim 24 states a method of switching between a live video decoding and a recorded playback in a digital video and recording system, comprising:

- (a) receiving a digital video data stream in a first data path (pg. 24, lines 2-10 teaches a first data path that connects the tuner directly to the decoder and then to the TV, to allow for a direct path without the need for buffering the incoming video data stream) ;
- (b) decoding the video data received in the first data path (Bodkin teaches a video processing unit 18 that decodes the incoming video data as described in pg. 10, lines 15-21;
- (c) receiving a first PVR command (pg. 16, lines, 20-22 recites that a user can press a "pause" button on the remote control. The pause command is a first PVR command);
- (d) receiving the video data stream in a second data path (when the user pauses the television program, the video stream is recorded on a hard disk. The second data path is one that connects the incoming video stream to the hard disk recorder (pg. 24, lines 2-10);

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(e) marking a data element of the video data stream in the first data path when the first PVR command is received (Bodkin teaches of a indicator data that is stored corresponding to the "paused" point in time, which thereby marks the video data stream that was last transmitted to the decoder (pg. 22, lines 15 - p. 23, line 4));

(f) comparing the marked data element in the first data path with the video data stream received in the second path; and

(g) decoding the video data received in the second data path after the marked data element in the first data path matches a data element in the video data stream in the second path (pg. 22, lines 15 through pg. 23, lines 4 discloses that when the user resumes the viewing of the TV program, the video is read from the hard disk (by way of buffers 57 or 58) and resumes from the position where it had initially been paused, and continues the playback accordingly. The stored indicator data was from the first data path and the playback is from the hard disk, which is from the second data path. It is understood that when the video is displayed it has also been decoded as disclosed in pg. 10, lines 15-21. The video played back from the hard drive is loaded into a buffer 59 before being decoded and further displayed on the TV (pg.19, lines 10-16).

Regarding claim 25, Bodkin teaches in pg. 16, lines 20-22 of a "pause" command facilitated through the remote control.

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Regarding claims 26 and 27, pg. 16, lines 17-19 teach of a playback button facilitated through the remote control. The playback button is the second PVR command.

Regarding claim 28, Bodkin teaches that once the pause button (first PVR command) is input, the program (video data stream) is halted from going through to the decoder (first data path), and is therefore routed to the hard disk to be recorded (pg. 24, lines 11-20).

Regarding claim 29, Bodkin teaches in pg. 22, line 15- pg. 23, line 4, that when the transmission of video is halted, the a corresponding indicator data is stored which points to the location of the paused position.

Regarding claim 33, Bodkin teaches in pg. 19, lines 10-16 of buffers (57 and 58) that record the incoming video data stream.

Regarding claim 34, Bodkin teaches that his invention that uses a remote control to allow the user to tune to different channels (pg. 17, line 18-20). When the channel is changed, the new data stream from the selected channel is going to go through the same process as described in claim 24.

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bodkin and further in view of Brown.

Bodkin teaches a system that allows a user to tune to another channel and that the incoming data is in the format of a transport stream (Fig. 3, 16), but does not recite the limitation of extracting a timing reference element from the video data stream to be further used for updating a system time clock.

In an analogous art, Brown teaches a recording device that has an incoming video data stream with PTS information embedded in the stream. The program time stamp (PTS) is then utilized by the system to update its system clock (col. 6, line 1-14).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate Bodkin's video data stream to include timing reference elements allow for controlled and synchronized decoding of data.

8. Claims 6-8 and 30-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bodkin, and further in view of Levesque.

Regarding claims 6-8, Bodkin teaches a way of marking the incoming video data stream to allow the system to playback a recorded program from the point where it was initially paused. Bodkin fails to particularly teach the ability to mark the actual stream to be used as a pointer to the paused position and the ability to store the mark in a register.

In an analogous art, Levesque teaches that when a program is paused, the system inserts a mark in the bit stream (Para. 45). Since the mark is within a bit stream, it marks a byte. The bit stream is essentially the transport stream. Levesque further teaches that the mark or stamp is stored. The register can be broadly interpreted as a device that allows for storage, and therefore the limitation of storing the indicator (stamp) or the mark position (offset) is met by Levesque in paragraph 29.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to store the mark within the stream (offset) to allow for very precise location of the pause position. The precise location will negate the possibility of frames being dropped when the user wishes to resume from the paused position. This thereby allows for smooth transition between a paused frame displayed with the frames that are played back from the recording medium.

Regarding claims 30-32, Bodkin teaches a way of marking the incoming video data stream to allow the system to playback a recorded program from the point where it was initially paused. The marking takes place in the first data path. Bodkin fails to particularly teach the ability to mark the actual stream to be used as a pointer to the paused position and the ability to store the mark in a register.

In an analogous art, Levesque teaches that when a program is paused, the system inserts a mark in the bit stream (Para. 45). Since the mark is within a bit stream, it marks a byte. The bit stream is essentially the transport stream. Levesque further teaches that the mark or stamp is stored. The register can be broadly interpreted as a

device that allows for storage, and therefore the limitation of storing the indicator (stamp) or the mark position (offset) is met by Levesque in paragraph 29.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to store the mark within the stream (offset) to allow for very precise location of the pause position. The precise location will negate the possibility of frames being dropped when the user wishes to resume from the paused position. This thereby allows for smooth transition between a paused frame displayed with the frames that are played back from the recording medium.

***Allowable Subject Matter***

9. Claims 13-23 are allowed.

10. The following is an examiner's statement of reasons for allowance: The present invention teaches a device that allows for seamless switching between a live digital TV decoding and a recorded playback. Independent method claim 13 and system claim 19 identifies the following uniquely distinct features: "a controller that sends the received video data stream to the video decoder buffer during normal operation, but wherein if a command is received that requires the video data stream to be looped through a playback buffer, the controller sends the video data stream to the playback buffer while continuing to send the video data stream to the video decoder buffer, wherein when the video decoder buffer fills up, the controller halts transmission of the video data stream to the video decoder buffer and marks a data element that was last provided to the video decoder buffer, and wherein if a command causing decoding of the video data stream to

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resume is received, the controller causes the video data stored in the video decoder buffer to be transmitted to the video decoder and causes the video data stored in the playback buffer to be transmitted to the video decoder buffer starting at one of the marked data element and a point immediately after the marked data element.” The closest prior art, Bodkin (WO 01/11865), Levesque (US 2003/0170003), and Brown (US 6,868,225) teaches digital video recorders that allows a user to pause live TV which thereby records the incoming stream, either singularly or in combination, fail to anticipate or render the above underlined limitations obvious.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

### ***Conclusion***

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Krause teaches a similar system that allows simultaneous recording and playback using a same medium.

Schaefer teaches a similar system that stores incoming video and audio signals into a storage queue to allow playback of signals.

O'Connor teaches a similar system that allows a video stream to be recorded and then reproduced and a direct feed to the TV without being recorded.

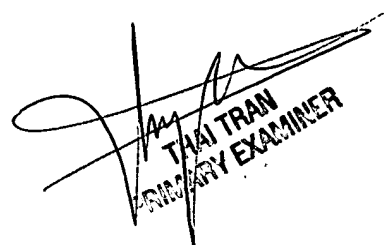
Russo teaches a similar system that allows for a video program to be simultaneously recorded and reproduced.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gelek Topgyal whose telephone number is 517-272-8891. The examiner can normally be reached on 8am -5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thai Tran can be reached on 571-272-7382. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Gelek Topgyal  
3/3/06



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PRIMARY EXAMINER